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Case Report

Mesenteric lipoma as the cause of intermittent abdominal pain

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Abstract
Mesenteric lipomas are extremely rare lesions with about 50 cases described in the current literature. It is a soft and mobile mass that does not infiltrate surrounding structures, and as a result, it mostly remains asymptomatic. However, in case the tumor reaches a large size, it may cause variable symptoms. Magnetic resonance imaging techniques are highly sensitive in characterizing fat-containing masses, including lipoma. Herein, we present a 58-year-old lady who presented with intermittent abdominal pain due to a mesenteric lipoma, but the diagnosis was delayed because of a series of errors in clinical and radiological evaluations.

Keywords
Mesentery; Lipoma; Abdominal pain

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Introduction

Mesenteric lipomas are extremely rare lesions with about 50 cases described in the current literature [1]. They are benign masses of mature fat cells that can develop anywhere in the body. They are usually seen on the trunk, arms, and legs, and are rarely detected in the peritoneal cavity. The incidence of mesenteric lipomas is not precisely known because they generally remain asymptomatic. It is widely known that there is an increased incidence of lipoma in people with diabetes mellitus, hypercholesterolemia or obesity [2]. Herein, we present a 58-year-old lady who presented with intermittent abdominal pain due to a mesenteric lipoma, but the diagnosis was delayed because of a series of errors in clinical and radiological evaluations.

Case Report

A 58-year-old woman with hypertension, cholelithiasis, and previous right ureterolithiasis presented with the complaint of intermittent diffuse abdominal pain and episodes of constipation for the last 4 years. Her pain had gradually worsened in the last few months and had exacerbated after meals. She reported that she had been admitted to hospital many times in recent years, that her pain was attributed to bile and/or urinary system calculi by doctors, and many medications were applied for these diagnoses but none of them fully resolved the pain. During her previous hospital admissions, she had undergone abdominal ultrasonography (US) for several times and computed tomography (CT) for once. None of the previous imaging studies had revealed pathological findings other than bile and urinary calculi. Physical examination and blood tests of the patient were unremarkable. Magnetic resonance imaging (MRI) of the abdomen revealed a large mass which was partially encasing the ascending colon and displacing the small bowel loops to the left side. It was a homogeneous mass demonstrating high T1 and T2 signal and saturating on fat-saturated T1- and T2-weighted sequences (Figure 1).

The mass showed no enhancement following gadolinium administration (Figure 2). Based on the rather specific imaging findings, the patient was diagnosed as having a mesenteric lipoma. The patient subsequently underwent open abdominal surgery and the mass was completely resected.

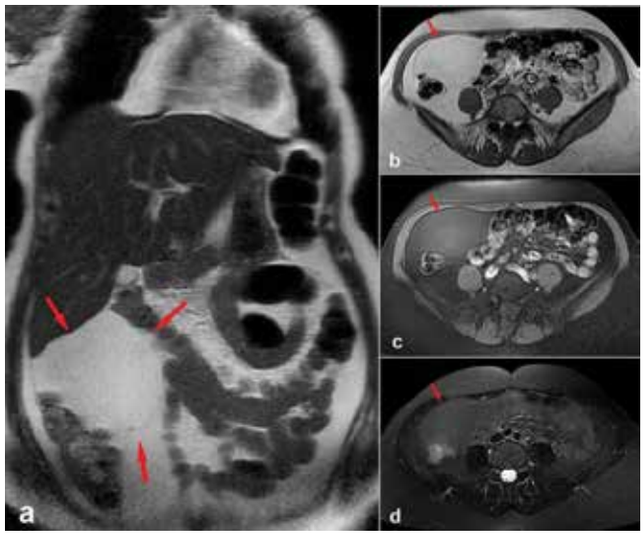

Figure 1. Coronal T2-weighted (a), axial T1-weighted (b), axial fat-suppressed T1-weighted (b), and axial fat-suppressed T2-weighted (b) magnetic resonance images demonstrate a homogeneous mass that partially encases the ascending colon and displaces the small bowel loops to the left side. Note suppression of T1 and T2 signal in fat-suppressed T1-weighted (c) and T2-weighted (d) images, respectively. The signal characteristics of the lesion are consistent with a lipoma.

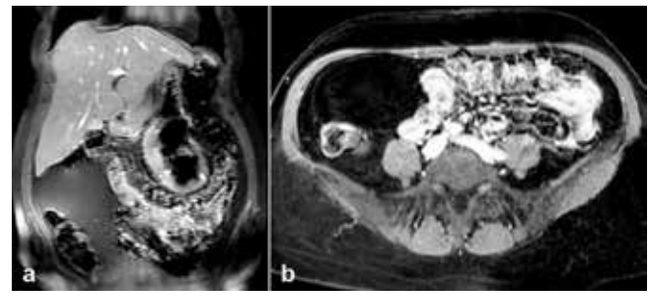

Figure 2. The mass shows no enhancement in coronal (a) and axial (b) contrast-enhanced fat-suppressed T1-weighted images.

Discussion

Mesenteric lipoma is a very rare entity that occur either in the root or at the luminal edge of the mesentery. It is a soft and mobile mass that does not infiltrate surrounding structures, and as a result, it mostly remains asymptomatic [2]. However, in case the tumor reaches a large size, it may cause variable symptoms [3]. Imaging plays a critical role in diagnosis and treatment planning when a symptomatic fat-containing mass is encountered. As a non-invasive, affordable, and widely available imaging tool, US is the most preferred first-line imaging modality in the evaluation of abdominal pain. Although US allows correct characterization of a fat-containing mass in most cases, the exact location, size, and extent of the mass are best determined by CT or MRI. Mesenteric lipomas characteristically display homogeneous low attenuation on CT. While CT readily identifies macroscopic fat, microscopic fat is less identifiable on CT. On the other hand, MRI techniques are highly sensitive in characterizing fat-containing masses, including lipoma. On MRI, a mesenteric lipoma typically demonstrates homogeneous high T1 and intermediate T2 signal intensity and saturates on fat-saturated sequences [4-6].

We presented a case with delayed diagnosis due to errors in both clinical and radiological evaluation. The most important factors that mislead both the clinician and the radiologist are that the patient's symptoms were subtle and nonspecific and the patient had manifest diseases to which symptoms could be attributed. The presence of biliary and urinary tract calculi led the physicians to behave biased and prevented them from investigating different diagnostic possibilities. The mass has been overlooked each time in numerous imaging studies. Although it is an extremely rare cause of abdominal pain, mesenteric lipoma should always be included in the differential diagnosis list of any abdominal pain. This is especially valid in the presence of persistent abdominal pain that does not respond to treatment.

Conclusion

Mesenteric lipoma is a very rare entity that mostly remains asymptomatic unless it reaches a large size. MRI techniques are highly sensitive in characterizing fat-containing masses, including lipoma. Although it is an extremely rare cause of abdominal pain, mesenteric lipoma should always be included in the differential diagnosis list of any abdominal pain.

Scientific Responsibility Statement
The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement
All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

Conflict of interest
None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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